

# Premises Cable Conduit Fill Guide

This information is intended as a guideline. Because conduit sizes may vary by manufacturer, please verify all dimensions prior to using this reference chart. All dimensions are rounded up. This guide is based on NEC recommendations of 40% fill for 3 or more cables per conduit and on straight runs. For each 90 degree bend, reduce available space by 15%. Lubricants are recommended (check compatibility with jacket materials).

Conduit Trade Size in (mm)		0.50 (12.7)	0.75 (19.1)	1.00 (25.4)	1.25 (31.8)	1.50 (38.1)	2.00 (50.8)	2.50 (63.5)	3.00 (76.2)	3.50 (88.9)	4.00 (101.6)	5.00 (127.0)
Conduit Inner Diameter in (mm)		0.62 (15.7)	0.82 (20.8)	1.05 (26.7)	1.38 (35.1)	1.61 (40.9)	2.07 (52.6)	2.56 (65.0)	3.07 (78.0)	3.55 (90.2)	4.03 (102.4)	5.05 (128.3)
Conduit Outer Diameter in (mm)		0.84 (21.3)	1.05 (26.7)	1.32 (33.5)	1.70 (43.2)	1.90 (48.3)	2.38 (60.5)	2.88 (73.2)	3.50 (88.9)	4.00 (101.6)	4.50 (114.3)	5.56 (141.2)
Fill Area in <sup>2</sup> (cm <sup>2</sup> )		0.30 (1.94)	0.53 (3.42)	0.86 (5.55)	1.50 (9.68)	2.04 (13.16)	3.36 (21.68)	4.79 (30.90)	7.39 (47.68)	9.89 (63.81)	12.73 (82.13)	20.01 (129.10)
Recommended Fill 40% in <sup>2</sup> (cm <sup>2</sup> )		0.12 (0.77)	0.21 (1.35)	0.35 (2.26)	0.60 (3.87)	0.81 (5.23)	1.35 (8.71)	1.92 (12.39)	2.96 (19.10)	3.95 (25.48)	5.09 (32.84)	8.00 (51.61)
Cable Nominal Diameter in (mm)	Cable Area in <sup>2</sup> (cm <sup>2</sup> )	Number of Cables at 40% Conduit Fill										
		15	27	44	76	103	171	243	375	500	644	1013
0.10 (2.5)	0.008 (0.05)	15	27	44	76	103	171	243	375	500	644	1013
0.13 (3.3)	0.012 (0.08)	10	17	28	49	66	109	156	240	320	412	648
0.15 (3.8)	0.018 (0.12)	7	12	20	34	46	76	108	167	222	286	450
0.18 (4.6)	0.026 (0.17)	5	8	14	23	32	53	75	116	154	199	313
0.20 (5.1)	0.032 (0.21)	4	7	11	19	26	43	61	94	125	161	253
0.21 (5.3)	0.035 (0.23)	3	6	10	17	23	39	55	85	113	146	230
0.22 (5.6)	0.038 (0.25)	3	5	9	16	21	35	50	77	103	133	209
0.23 (5.8)	0.042 (0.27)	3	5	8	14	19	32	46	71	95	122	191
0.24 (6.1)	0.046 (0.30)	3	5	8	13	18	30	42	65	87	112	176
0.25 (6.4)	0.049 (0.32)	2	4	7	12	16	27	39	60	80	103	162
0.26 (6.6)	0.053 (0.34)	2	4	7	11	15	25	36	55	74	95	150
0.27 (6.9)	0.058 (0.37)	2	4	6	10	14	23	33	51	69	88	139
0.28 (7.1)	0.062 (0.40)	2	3	6	10	13	22	31	48	64	82	129
0.29 (7.4)	0.066 (0.43)	2	3	5	9	12	20	29	45	59	77	120
0.30 (7.6)	0.071 (0.46)	2	3	5	8	11	19	27	42	56	72	113
0.31 (7.9)	0.076 (0.49)	2	3	5	8	11	18	25	39	52	67	105
0.32 (8.1)	0.081 (0.52)	1	3	4	7	10	17	24	37	49	63	99
0.33 (8.4)	0.086 (0.55)	1	2	4	7	9	16	22	34	46	59	93
0.34 (8.6)	0.091 (0.59)	1	2	4	7	9	15	21	32	43	56	88
0.35 (8.9)	0.097 (0.63)	1	2	4	6	8	14	20	31	41	53	83
0.40 (10.2)	0.126 (0.81)	1	2	3	5	6	11	15	23	31	40	63
0.45 (11.4)	0.160 (1.03)	1	1	2	4	5	8	12	19	25	32	50
0.50 (12.7)	0.198 (1.28)	1	1	2	3	4	7	10	15	20	26	41
0.55 (14.0)	0.239 (1.54)	1	1	1	3	3	6	8	12	17	21	33
0.60 (15.2)	0.284 (1.83)	0	1	1	2	3	5	7	10	14	18	28
0.65 (16.5)	0.334 (2.15)	0	1	1	2	2	4	6	9	12	15	24
0.70 (17.8)	0.387 (2.50)	0	1	1	2	2	3	5	8	10	13	21
0.75 (19.0)	0.444 (2.86)	0	0	1	1	2	3	4	7	9	11	18
0.80 (20.3)	0.506 (3.26)	0	0	1	1	2	3	4	6	8	10	16
0.85 (21.6)	0.571 (3.68)	0	0	1	1	1	2	3	5	7	9	14
0.90 (22.9)	0.640 (4.13)	0	0	1	1	1	2	3	5	6	8	13
0.95 (24.1)	0.713 (4.60)	0	0	0	1	1	2	3	4	6	7	11
1.00 (25.4)	0.790 (5.10)	0	0	0	1	1	2	2	4	5	6	10